

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A method for detecting a at least one target nucleic acid comprising:

(a) providing first and second target-specific nucleic acids, wherein the first and second target-specific nucleic acids each comprise sequences complementary to the target nucleic acid; wherein the first and second target-specific nucleic acids are specific only for a selected one of the at least one target nucleic acid of interest; wherein the first target specific nucleic acid is bound to a first affinity tag and the second target-specific nucleic acid is bound to a second affinity tag, wherein the first affinity tag is capable of binding to a molecular motor, wherein the molecular motor consists essentially of a biological or synthetic molecule capable of induced translational or rotational movements that are capable of detection, ~~and~~ wherein the second affinity tag is capable of binding to a detection probe consisting essentially of a metal nanorod;

(b) contacting the first and second target-specific nucleic acids to a sample under conditions whereby the first and second target-specific nucleic acids will hybridize to the at least one target nucleic acid if the at least one target nucleic acid is present in the sample, wherein upon hybridization to the target nucleic acid the first and second target-specific nucleic acids are ~~directly adjacent to each other~~ juxtaposed at 5' phosphate and 3' hydroxyl termini of two adjacent target-specific nucleic acids hybridized to the complementary target nucleic acid;

(c) upon hybridization to the target nucleic acid, ligating the first and second target-specific nucleic acids together;

(d) binding the molecular motor to the first affinity tag and the detection probe to the second affinity tag;

(e) inducing movement of the molecular motor; and

(f) detecting movement of the molecular motor through the detection probe regularly changing color, wherein the motor induced movement of the molecular motor serves to detect the target nucleic acid in the sample, and where observation of ATP-dependent rotation of different colored nanorods indicates the presence of a corresponding target nucleic acid each having its unique probe attachment or different motors causing different specific motor-induced motion so as to allow determination of an assortment of different target nucleic acid(s) is/are present in any given sample.

Claim 2 (original): The method of claim 1 wherein the method further comprises generating a plurality of ligation products following step (c) using ligation chain reaction.

Claim 3 (currently amended) The method of claim 1 wherein the molecular motor consists essentially of ~~comprises~~ an F1-ATPase.

Claim 4 (currently amended): The method of claim 1 [[3]], wherein the inducing comprises contacting the molecular motor with ATP.

Claim 5 (previously presented): The method of claim 1 wherein the detection probe comprises a metal nanorod.

Claim 6 (original): The method of claim 5, wherein the detecting comprises visual detection by dark field microscopy.

Claim 7 (previously presented): The method of claim 5 wherein the detecting comprises determining an oscillation of intensity of light at one or more wavelengths from the detection probe.